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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,843	07/22/2002	James Surjan	3029-72US	3125

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EXAMINER

DAHBOUR, FADI H

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,843

Applicant(s)

SURJAN ET AL.

Examiner

Fadi H. Dahbour

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In line 5 of the claim, the term "heater" should be changed to --fabric--.
- Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4-10, 12-21, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watts in view of Schmitt.

Watts discloses a self regulating flexible heater construction for producing heat when connected to an electrical power source (Figs.1-3), comprising a flexible substrate (14 of Fig.2, also see "substrate" in line 44 of col.2), a layer of a positive temperature coefficient material (see "layer of positive temperature coefficient...material" in lines 5-7 of col.3), and a layer of conductive material applied to the heater in an interdigitated pattern (Fig.1, also see "interdigitated" in line 1 of col.3), wherein the layer of positive temperature coefficient material is applied to the layer of conductive material in an

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interdigitated pattern (see "screen printed over the buss system is a layer of positive temperature coefficient" in lines 5-6 of col.3), wherein the PTC material is comprised of a polyolefin resin (see lines 13-28 of col.3), wherein the conductive material is formulated from a mixture of a polymeric resin selected from the group consisting of vinyls, polyesters, acrylics and a conductive material selected from the group consisting of silver pigment, a silver coated copper pigment, or plated copper pigments (see lines 50-52 of col.2), wherein the conductive material is constructed of conductive wires (Fig.1) fixed within the construction by conductive glues (Fig.2, also see "adhesive" in line 47 of col.4), wherein at least the layer of conductive material is applied to the substrate by screen printing, spraying, draw down, web printing or any other printing method capable of providing a uniform coating (see "printable" in line 48 of col.2, also see "screen printed" in line 5 of col.3), a plurality of buss bars in electrical contact with the conductive material (Fig.1) and an electrical power source (see "power supply" in line 60 of col.2), wherein the buss bars have a width dimension and a length dimension and wherein the width decreases over at least a portion of its length (Fig.1), wherein the buss bars have a width dimension and a length dimension and wherein the width remains constant over at least a portion of its length (Fig.1), wherein the buss bars have a width dimension and a length dimension, and at least one void at a preselected location along its length (Fig.1), wherein the buss bars have a width dimension and a length dimension and wherein the width dimension increases step-wise over at least a portion of its length (Fig.1), wherein the spacing of the busses varies across the heater (Fig.1).

Regarding claims 1-2, 4-10, 12-21, Watts lacks the substrate being woven or non-woven fabric of 1 to 6 ounces per square yard. Schmitt discloses a substrate being woven or non-woven fabric of 1 to 6 ounces per square yard (7 of Fig.3, also see "non-woven fabric... 150 g/m²" in line 8 of col.4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the features taught by Schmitt, in the device of Watts, because Schmitt teaches that it serves to provide support (see "support...fabric" in lines 7-8 of column 4 of Schmitt), or, because Schmitt teaches that it could serve to provide an aesthetic quality (see "decorative fabric...decoration pattern like the support layer 7" in lines 43-47 of col.4 of Schmitt).

Furthermore, regarding claim 7, Watts lacks the PTC material having a weight of 7 to 20 lbs per ream. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the PTC material having a weight of 7 to 20 lbs per ream, in the device of Watts, because Watts teaches the "PTC...having a composition adjusted to have a desired electrical characteristic for the particular application" (see lines 8-10 of col.3 of Watts).

Furthermore, regarding claims 8-9, Watts lacks the PTC material having a surface resistivity of 3 to 8 kilo-ohms as measured by multimeter probes set 1cm apart. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the PTC material having a surface resistivity of 3 to 8 kilo-ohms as measured by multimeter probes set 1cm apart, in the device of Watts, because Watts teaches the "PTC...having a composition adjusted to have a desired electrical characteristic for the particular application" (see lines 8-10 of col.3 of Watts).

Furthermore, regarding claims 20-21, Watts lacks an overlayer of a laminated or sewn secondary breathable woven or non-woven fabric comprised of natural or synthetic fibers which covers the heater, and is an encapsulating coating, which may be flame retardant, and which is applied over the heater. Schmitt discloses an overlayer of a laminated or sewn secondary breathable woven or non-woven fabric comprised of natural or synthetic fibers which covers a heater, and is an encapsulating coating, which may be flame retardant, and which is applied over the heater (6 of Figure 3, also see "cover layer 6...nonwoven fabric" in lines 42-44 of col.4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the features taught by Schmitt, in the device of Watts, because Schmitt teaches that it could serve to provide an aesthetic quality (see "decorative fabric...decoration pattern" in lines 43 & 46 of col.4 of Schmitt).

Furthermore, regarding claim 24, Watts lacks the substrate being fabric having a bulk density of about 0.6 g/cm^3 or greater and a thermal diffusivity of about $0.003 \text{ cm}^2/\text{s}$ or greater. Schmitt discloses a substrate being fabric having a bulk density of about 0.6 g/cm^3 or greater and a thermal diffusivity of about $0.003 \text{ cm}^2/\text{s}$ or greater (7 of Fig.3, also see "fabric" in line 8 of col.4, also see "non-woven...polyester" in lines 8-9 of col.4 of Schmitt, also see "non-woven polyester" in line 14 of page 12 of applicant's specification). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the features taught by Schmitt, in the device of Watts, because Schmitt teaches that it serves to provide support (see "support...fabric" in lines 7-8 of column 4 of Schmitt), or, because Schmitt teaches that it could serve to provide an aesthetic quality (see "decorative fabric...decoration pattern like the support layer 7" in lines 43-47 of col.4 of Schmitt).

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watts in view of Schmitt and Gustavsson et al.

Watts and Schmitt, as described above, disclose all the claimed features except the heater being incorporated within an automobile seat. Gustavsson discloses a heater being incorporated within an automobile seat (see “for vehicle seats” in line 56 of col.1, also see “seat heaters” in line 11 of col.2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the feature taught by Gustavsson, in the device of Watts and Schmitt, because Gustavsson teaches that it is desirable for the seat heater to be a self-regulating heater (see “PTC properties” in line 6 of abstract, also see “PTC properties... self-regulated” in lines 24 & 31 of col.11 of Gustavsson), and also because, Watts teaches that “the heating device 12 according to the present invention can be used in any other application where a self-regulating heater is desirable” (see lines 26-29 of col.2 of Watts).

6. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitt in view of Carlson and Seibel et al.

Schmitt discloses a self-regulating flexible heater construction for producing heat when connected to an electrical power source (Figs1-5), comprising a flexible fabric substrate (7 of Fig.3, also see “fabric” in line 8 of col.4), a layer of electrically conductive silicone rubber (4 of Figs.3 & 5, also see “electrically conductive silicone rubber” in line 34 of col.4), a layer of conductive material (9 Figs.3 & 5), wherein the heater has a multiple buss design (9, 9, 9 of Fig.5) comprised of at least a common setting buss (see middle 9 of Fig.5), a low setting buss (see left 9 of Fig.5), and a high setting buss (see right 9 of Fig.5), in which current flows from the common setting buss to the high setting buss and from the common setting buss to the low setting buss (Fig.5).

Schmitt lacks having either high or low current settings. Seibel discloses a switch for either high or low current settings (Fig.2A). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a switch as taught by Seibel, in the device in Figure 5 of Schmitt, for improved control of the heating. Furthermore, Schmitt lacks mention of positive temperature coefficient. Carlson discloses positive temperature coefficient (see "PTC" in line 25 of col.4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the feature taught by Carlson, in the device of Schmitt, because Schmitt discloses electrically conductive silicone rubber, and Carlson teaches that "PTC material...typically a...silicone rubber or the like, having carbon black particles mixed therein in such a manner as to give the desired temperature/resistance characteristics (see lines 25-29 of col.4 of Carlson).

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smuckler in view of Schmitt.

Smuckler discloses a self regulating flexible heater construction for producing heat when connected to an electrical power source (Figs.1-3), comprising a flexible substrate (Figs.1-2, also see "substrate" in line 2 of abstract), a layer of positive temperature coefficient material (14 of Figs.1-2, also see "positive temperature coefficient" in lines 62-63 of col.3), a layer of a conductive material (15, 16 of Figs.1-2), wherein at least one of the layers is applied to the heater in an interdigitated pattern (Fig.2), wherein the layer of conductive material is applied to the layer of positive temperature coefficient material in an interdigitated pattern (Figures.1-2, also see "15 and 16 are then applied onto coating 14" in line 25 of col.4).

Smuckler lacks the substrate being fabric. Schmitt discloses a substrate being fabric (7 of Fig.3, also see "fabric" in line 8 of col.4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the feature taught by Schmitt, in the device of Smuckler, because Schmitt teaches that it serves to provide support (see "support...fabric" in lines 7-8 of column 4 of Schmitt), or, because Schmitt teaches that it could serve to provide an aesthetic quality (see "decorative fabric... decoration pattern like the support layer 7" in lines 43-47 of col.4 of Schmitt).

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smuckler in view of Schmitt and Ohmura et al.

Smuckler and Schmitt, as described above, disclose all the claimed features except the conductive material being formulated from a mixture of solvating materials selected from the group consisting of organic solvents and water based solvents and a conductive material selected from the group consisting of silver pigment, a silver coated pigment, or plated copper pigments. Ohmura discloses a conductive material being formulated from a mixture of solvating materials selected from the group consisting of organic solvents and water based solvents and a conductive material selected from the group consisting of silver pigment, a silver coated pigment, or plated copper pigments (see "silver paste consisting of silver powder...and an organic solvent" in lines 44, 49-50 of col.2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the feature taught by Ohmura, in the device of Smuckler and Schmitt, because Ohmura teaches that it is suitable material for electrodes in a PTC-type heating device (see "on both surfaces...of a PTC...to form... electrodes" in lines 40, 51-52 of col.2 of Ohmura).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fadi H. Dahbour whose telephone number is 703-306-5479. The examiner can normally be reached on M-F, 9am-5:30pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sang Paik can be reached on 703-308-1147. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

SANG Y. PAIK
PRIMARY EXAMINER

S. Paik

Fadi H. Dahbour
Examiner
Art Unit 3742

August 7, 2003